Serial No. 09/882,119
Page 2 of 11

IN THE CLAIMS:

Please amend the claims pending in this application as follows:

1.   (Currently Amended) A method for concatenating packets to be transmitted from a first node to a second node, the method comprising the steps of:

(a) receiving packets having at least one traffic characteristic from at least one input port;

(b) concatenating n received packets to form a concatenated packet, wherein the concatenated packet comprises a common header, a content information part of each of the n received packets, and a payload of each of the n received packets; and

(c) transmitting the concatenated packet from the first node to the second node, ~~characterized in that~~ wherein the n received packets have a common traffic characteristic and n is determined based on the common traffic characteristic and at least one packet characteristic, the at least one packet characteristic comprising at least one of a size of the content information part of each of the n received packets, a size of the payload of each of the n received packets, or a size of the common header.

2.   (Currently Amended) The method of claim 1, wherein the concatenated packet is transmitted through a channel in a communication network, wherein the common traffic characteristic requires a delay of less than p milliseconds, ~~and the concatenated packet comprises a common header, a content information part for each of the n received packet and a payload for each of the n received packet.~~

3.   (Currently Amended) The method of claim 2, wherein the channel has a bandwidth of B and n is determined by solving n from an equation of the form

$(H + nI + \sum_{i=1}^{n} P_i)/B < p/1000$, where H is the size of the common header, I is the size of the content information part of each of the n received packets, and P_i is the size of the payload of the ith of the n received packets.

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PAGE 4/13 * RCVD AT 10/28/2005 5:15:12 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-6/34 * DNIS:2738300 * CSID:+17325309808 * DURATION (mm-ss):03-56

4.   (Currently Amended) The method of claim 2, wherein the channel has a bandwidth of B and if P_{max} represents the maximum possible payload size of a received packet having the common traffic characteristic, n is determined by solving n from an equation of the form $(H + n(I + P_{max}))/B \leq p/1000$, where H is the size of the common header and I is the size of the content information part of each of the n received packets.

5.   (Currently Amended) The method of claim 1, wherein the concatenated packet is transmitted through a channel in a communication network, wherein the common traffic characteristic is delay insensitive, and the concatenated packet comprises a common header, a content information part for each of the n received packet and a payload for each of the n received packet.

6.   (Currently Amended) The method of claim 5, wherein the maximum packet size allowed by the communication network is M bytes and n is determined by solving n from an equation of the form $H + nI + \sum_{i=1}^{n} P_i \leq M$, where H is the size of the common header, I is the size of the content information part of each of the n received packets, and P_i is the size of the payload of the ith of the n received packets.

7.   (Currently Amended) The method of claim 5, wherein the maximum packet size allowed by the communication network is M bytes and if P_{max} represents the maximum possible payload size of a received packet having the common traffic characteristic, n is determined by solving n from an equation of the form $H + n(I + P_{max}) \leq M$, where H is the size of the common header, and I is the size of the content information part of each of the n received packets.

8.   (Currently Amended) An apparatus for concatenating packets to be transmitted from a first node to a second node, the apparatus comprising:
(a) at least one input port for receiving packets;

(b) a traffic characteristic classifier for classifying and storing received packets of different traffic characteristics into different traffic characteristic groups in memory;

(c) a concatenated packets preparer for forming a concatenated packet from n received packets, wherein the concatenated packet comprises a common header, a content information part of each of the n received packets, and a payload of each of the n received packets; and

(d) at least one output port for transmitting the concatenated packet to the second node, ~~characterized in that~~ wherein the n packets belong to one traffic characteristic group and n is determined based on the traffic characteristic of the one traffic characteristic group and at least one packet characteristic, the at least one packet characteristic comprising at least one of a size of the content information part of each of the n received packets, a size of the payload of each of the n received packets, or a size of the common header.

9.   (Currently Amended) The apparatus of claim 8, wherein the concatenated packet is transmitted through a channel in a communication network, wherein the n packets belong to the one traffic characteristic group that requires a delay time of less than p milliseconds, ~~and~~ wherein the ~~concatenated packet comprises a~~ common header ~~of~~ includes H bytes, ~~a~~ the content information part of ~~I bytes for~~ each of the n received packets includes I bytes, and ~~a~~ the payload ~~of P_i bytes~~ for ith of the n received packets includes P_i bytes.

10.   (Currently Amended) The apparatus of claim 9, wherein the channel has a bandwidth of B and n is determined by solving n from an equation of the form

$$(H + nI + \sum_{i=1}^{n} P_i) / B < p / 1000 .$$

11.   (Currently Amended) The method of claim 9, wherein the channel has a bandwidth of B and if P_{max} represents the maximum possible payload size of a received packet having the common traffic characteristic, n is determined by solving n from an equation of the form $(H + n(I + P_{max})) / B \leq p / 1000 .$

12. (Currently Amended) The apparatus of claim 8, wherein the concatenated packet is transmitted through a channel in a communication network, wherein the n packets belong to the one traffic characteristic group that is delay insensitive, and wherein the concatenated packet comprises a common header of includes H bytes, a the content information part of I bytes for each of the n received packets includes I bytes, and a the payload of P_i bytes for ith of the n received packets includes P_i bytes.

13. (Currently Amended) The apparatus of claim 12, wherein the maximum packet size allowed by the communication network is M bytes and n is determined by solving n from an equation of the form $H + nI + \sum_{i=1}^{n} P_i \leq M$.

14. (Currently Amended) The method of claim 12, wherein the maximum packet size allowed by the communication network is M bytes and if P_{max} represents the maximum possible payload size of a received packet having the common traffic characteristic, n is determined by solving n from an equation of the form $H + n(I + P_{max}) \leq M$.